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ABSTRACT

The focus of this paper is on how bilingual children may benefit through a reading method that allows them opportunities to perceive and conceptualize aspects of the English language using a Piagetian model. The paper presents the analysis and prevention methods used for correcting difficulties encountered by bilingual students, and argues that traditional methods of word attack violate the principles of accommodation and assimilation by ignoring the fact that the bilingual child does not have an equivalent for many sounds of the English language. The paper then examines how the application of Piagetian principles in the teaching of reading can contribute to an atmosphere in which the child is nurtured and motivated. In conclusion, the paper suggests that it would be better to place bilingual children in a well-organized program that provides many opportunities to experience positive interactions of cognitive function and language development. (FL)

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APPLYING PIAGETIAN THEORY TO HELPING THE BILINGUAL CHILD TO READ IN THE ENGLISH LANGUAGE

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Statement of the Problem

The discussion in this paper will focus on how bilingual children may benefit through a reading method which allows children ample opportunity to perceive and conceptualize aspects of the English language using a Piagetian model, rather than traditonal models which have failed the pre-literate, bilingual child. The analysis, prevention and methods used for correcting difficulties that a bilingual student encounters are presented. Traditional methods of word attack violate the principles of accomodation and assimilation, ignoring the fact that the bilingual child does not have an equivalent of many sounds of the English language in his repertoire (Stockwell and Bowen, 1976). The present paper examines how the application of Piagetian principles in the teaching of reading can contribute to an atmosphere in which the child is nurtured and motivated. The results of the study imply that it would be much better to place bilingual children in a well-organized program which meets his/her needs through an approach which provides many opportunities to experience success by providing positive interaccions of cognitive function and language development.

Special Problems of the Bilingual Child Learning to Read

Because educators and others working with bilingual children have not fully understood the relationship between cognitive development and bilingualism, bilingual children have been diagnosed as handicapped and placed in special education programs of various types. They suffer from lack of necessary experience in the English idiom When a child looks at a word he does not know, he should understand some things about the English language that will help him attack the word. His home environment, the speaking vocabulary and exercises the children have had before coming to school, influnce reading readiness to a great extent.

Bilingual students, coming from a Spanish dominant background with an

inadequate English word vocabulary, are ill-equipped to function in the mainstream because of lack of knowledge in English vocabulary and word function. Basic language concepts, such as the understanding that writing is a code for speech, and that English words have certain basic structures, are insights that linguists, as language scholars, have made, the discovery of which can augment the structural approach of a good reading series. Linguistic verbalization must be taken into account as far as possible.

To point out some possible areas of interference for the bilingual child, there are certain sounds which appear in English and have no corresponding sound equivalent in Spanish. This shows the need for many more exercises which will bring the unknown sounds in English to to a level of awareness, so that, instead of remaining subliminal, the child will be made conscious of these sounds. He must be given enough time to practice the English language through concrete exercises, illustrations, subject charts, and experience charts, so that the language no longer will remain unknown and abstract but will become concrete and coprehensible.

Since writing is a code for speech, unless the child is enabled to develop facililty in the speech of the milieu in which he must live, he will develop frustrations and feelings of insecurity and fear of not being accepted, in addition to having the problem of illiteracy. The bilingual child needs to learn to function in English. A priority must be to help the child feel accepted by his peer group, among others, in a learning environment where he will be prepared to function and compete in the mainstream. What are some of the ways that this child can be enabled to work independently and also share with peers? In a healthy noise and a creative atmosphere the child may be guided, not necessarily led, but guided, to a new level of learning. Each child has his own preferred learning style (Baecher, 1978).

Reading Problems for the Bilingual Child

Por auditory discrimination and poor auditory memory are sometimes causes of reading disability. Poor attention, discrimination, and memory skills so limit the input the child gets from the page that he finds it difficult to be sure and consistent in his responses. It has already been mentioned that some sounds present in the English vocabulary are not found in Spanish vocabulary. Children need this missing knowledge, but complete individualization of instruction for poor readers is seldom possible if the teacher has a large class. This type child is often suffering failure, too, in much of his other school work. Learning to read seems like some kind of mysterious, unsurmountable hurdle over which the poor reader has no control, unless the teacher can interpret to him the small steps he can take to reach the goal of learning to read. Therefore, much attention should be given to what the child has learned and does know rather than what he doesn't know. This point was given much consideraiton in the research.

Piaget posits that language development follows cognitive development and is fundamental to the issue of teaching the bilingual student to read in English. According to Piaget, thought originates with sensory motor experiences and not language. The student must first come through the concrete operational state before he might indeed be helped to deal with symbols, which printed words are. As literate people, we might be blind to the plight of the illiterate by the fact that we, in a sense, do not remember back to the time when we manipulated things, how those physical operations gradually were impressed into our cognition and were almost replaced by our language and by our symbols, so that we bypass these years of our experience because we are so much operating with symbols that we think this is the essence of knowing. Piaget tells us knowledge is activity. Acitivity is a body function. Knowledge, upon which is built the reading skill, is in some ways an extension of the biological structures and interaction with environment.

Stages of development have structural features and characteristics which allow a succession and an integration of each former stage into the next, and a cognition where the subject is able to deal with all possibiliities (Piaget, 1976).

Central to the Piagetian approach is the concept of the schema, which involes the product of adaptation and represents the structure that adapts. A schema permits certain kinds of mental operations and defines what the person is capable of doing. As the schema develops, it extends the person's repertoire and permits new kinds of mental operations to occur, so that broader, higher order adaptations can develop. Adaptation is developed by means of active interaction with the environment. Assimilation denotes a person's ability to handle new situations and new problems. The person applies his present schema. Accomodation refers to the process of change within a person; by developing new mechanisms, he can cope with situations which he finds at first too difficult. Assimilation and accomodation are complementary; neither can exist without the other. Where there is an imbalance between assimilation and accomodation, adaptation is impeded and a state of disequilibrium arises.

Applying Piagetian principles to the difficulty encountered by the bilingual student attempting to read in the English language, it would be well to remember that there are three distinct stages in the development of reading skills, the period of introduction, emphasis, and reinforcement and mastery (Harris, 1963).

It is the period of introduction with which the bilingual student encounters difficulty. Many students have great difficulty in sound discrimination. It may be that these pupils who experience difficulty do not know the auditory patterns that they are expected to know in order to read the material that has been selected for them to read. Contributors to success in learning to read include oral language, visual discrimination ability, and auditory discimination ability. If the child can hear differences between letter sounds and learn common sounds, which letters represent he may employ these sounds in word recognition.

The beginning reader, who has a rather good command of the oral language but little or no command of the written symbols of that oral language must be led from what he knows to what he doesn't know, that is, from the oral language he knows to the written symbols he needs to know, from the sound to the written symbol which represents that sound. Children first observe their own speech sounds and those of others and learn that these speech sounds may be represented by letters combined to represent words. Phonics is already a part of the student's listening and speaking vocabulary. This is demonstrated in the student's ability to distinguish between words that are made up of sounds. The teacher, for instance, may ask a student to complete a series of instructions. Even though the student would not be able to carry out the instructions if seen on the printed page, the student would be able to respond to spoken directions. This demonstrates that the student has oral-aural proficiency, but not necessarily reading-writing proficiency. The task of the teacher is to use the language in the student's oral-aural vocabulary and transfer this knowledge to reading and writing levels. In learning to read the student establishes phoneme-grapheme relationships, the relation of spoken sound to their sounds in print. Sounds in isolation have no meaning. Blended together in the word they represent, they must stir comprehension in the mind of the learner, or the word will continue to remain meaningless to him. In reading, there are two major types of associations the child must learn to make. One is the association between the printed words and the spoken words: the child must see a word and say it. The other is the association between letters and phonemes, single sounds: the child must see a letter and say a sound. The ability to move the eye following the line of text and the ability to articulate it accurately are specific motor skills involved in reading.

It is important to observe the child's rate of response to both types of associations. The goal in teaching this skill of word association is to develop a basic vocabulary. A basic vocabulary is made up of words which a student can read

automatically, i.e., without thinking. If the response to the printed word does not come within one-half second after the word is seen, it is not automatic enough to help the child read fluently (Flesch, 1955). When a child has to take time to analyze, search visually, and think about a word before pronouncing it, it is not yet in his basic vocabulary, even though he may say it correctly.

The ability to understand spoken English demonstrates that the student has the concrete experiences and perceptual abilities to comprehend words and sentences, the basis for all later communication abilities, including speaking, reading, and writing. Listening requires the perception of separate sounds in spoken words, the very same sounds which are found in written words. If the student can hear differences between letter sounds and learn that these sounds are represented by letters, he may employ these sounds in word recognition. With these basic learnings, he may blend the letter sounds into a facsimile of the word. If the word is then familiar auditorially, he may recognize it and comprehend its significance in its setting (Spache, 1973).

With the aid of auditory images, students of bilingual or limited English background may accumulate a store of auditory memories for the words in the reader. Initial instruction takes the form of telling the students the sounds of varying letters. Later these sounds are blended into syllables and then into words. One very desirable result would be the ability of the student to work out, on his own, the identification of words not yet in his basic vocabulary (Durkin, 1966).

The question addressed by this research was to determine what are some exercises by which phonics, recognized by these reporters as an essential part of teaching bilingual students to read in the English language, can be interrelated with comprehension, to describe a logical sequence for the teacher to follow in presenting phonics exercises to the beginning reader, Piagetian theory would have

the beginning reader get enough experiences at the concrete level so that he may easily go from the level of concrete relationships to the abstract and then to the formal level of reasoning.

Durrell (1956) states that reading abilities for the illiterate or semi-illiterate person are about 10% of his listening comprehension abilities. As his reading ability develops, his reading comprehension approaches his listening comprehesion. Other variables in longer language units are those of vocabulary meaning, number of ideas, degree of abtractness, relationship of ideas, inferences, classifications, order, significance, and other higher mental processes. The processes for developing skill in these areas can be begun and supported through exercises in oral-aural settings. Since the serious learner seeks from the environment those experiences that are consistent with his maturity and needs, the teacher must ensure that each learner is provided with the materials upon which he can develop and display attitudes which expect from the learner only that which he can yield at his stage of maturity. Part of the shaping component recognizes that a learner will be motivated to strive when success is clearly within his grasp. Goals must be set which make this apparent.

There is no reason why use of common reading materials cannot be the unifying basis for the slow-reading group as well as for the advanced groups. Not all the students in the slower group can master all the new words presented with each story or exercise in the reading materials, but all of them can learn to listen, to think, to discuss, and to create in response to the content of the materials being read. Learners need not be denied exposure to interesting reading materials and to group interaction if the teacher is willing to adapt procedures to fit their needs.

In the first place, instruction ought to focus on whole words rather than on sounds or parts of words. Whole words have meaning and therefore interest for learners. They represent things they have seen, people they have known, experien-

ces they have had. The learner uses real language which is familiar, concrete, spontaneous. Printed letters and words are symbols for sounds to which a learner attempts to associate meanings. A second fact that stands out is the necessity to improve comprehension, to develop an adequate meaning vocabulary. Since reading is based on associations of meanings with printed symbols, acquiring a rich storehouse of meanings is the first essential in reading readiness, not only in the initial stages but also for the reading of any material at any level. If the learner can verbalize about his experiences, retell stories, identify ideas with appropriate labels, listen accurately, he can acquire experiences that are linguistically meaninginful (Stauffer, 1952). Also, reading need not follow oral development, but may be parallel to it and contribute to the general language store (Heilman, 1972).

Cocking and Copple (1979) cite Labov's (1970) references to the need for establishing relevant topics and removing communication barriers by letting the participants know whatever they say is legitimate, including the use of socially tabaoo words..the motivation variable being that of having a meaningful topic to discuss. As the student's vocabulary grows, it may be possible for him to decode unknown words whose meaning he will ascertain by looking up the word in the dictionary, or by seeing it used in meaningful context. Certainly no learner can learn to read faster than his own experiencs and his auditory and speaking vocabulary permit.

The first type vocabulary words are those whose meaning are already known to the reader and need only to be recognized as one reads. Concrete words can stand alone. If they represent familiar concepts, they are learned readily. The larger the proportion of known words in a passage, the more readily and accurately it can be understood. The second type of words are those which are familiar but whose meanings need to be expanded or modified if they are to fit into the context. A

third type includes new words which can be taught best through a use of first hand experiences. An essential step, therefore, in teaching comprehension is to determine the words whose meanings should be taught directly, their relation to the previous experiences of the pupils, and more effective steps to be taken in developing the understandings needed (Kohl, 1952).

It appears, though, that the most important question that remains unanswered today pertains to the methodology, what is the best, the most efficient procedure for teaching pupils the relationship that exists between the sounds of the spoken language with which they are familiar and the symbols used to represent that language when it is written or recorded. The procedure herein reported was administered during regular classroom time and incorporated into the classroom schedule for one-half hour periods of each day. A curriculum model answering students' specific and spoken needs was worked out. Language arts games, records, drawings, writing of experience charts, stories and various reading materials were utilized during the process. Because of the grouping that naturally developed as students grew into differing areas of interesst and abilities it was necessary for meeting individual needs as well as whole group activities that the teacher work an accomodating schedule.

It was kept in mind that learning to read is a continuous, cumulative process and no reading skill is ever wholly learned at one time, but continues to be refined through successive stages of nurturing. Speaking, listening, communicating, reading, demonstrating knowledge of English vocabulary words through acting out activities and developing experience charts was used to develop reading abilities in such areas as learner comprehension, acquiring the recognition of recall of ideas, information, happenings that were expicitly stated in the materials read and recognition tasks which frequently took the form of purposes for reading. These required the student to locate or identify explicit statements in the

reading selection itself or in exercises that used explicit content of the reading selection. Recall tasks were also provided which required the students to produce from memory explicit statements from a selection; such tasks were often in the form of questions posed to students after the reading was completed. The major goal in developing reading comprehension was to provide students with experiences that would enable them to grow in their ability to think about and react to written materials in a variety of ways, as suggested by Bloom (1956), Letton (1958), Sanders (1966) and Guszak (1966)

A major hurdle the program helped the bililngual student to overcome in developing reading-writing efficiency was the obstacle of how to bridge the gap from oral-aural efficiencty to reading-writing efficiency. When the student is attempting to get meaning from a printed page, that student must first have the ability to recognize the word on the page before progress in reading can be made. If the student is able to recognize the word, there is no problem If the student doesn't recognize the word, there is a problem. First the word must be decoded and its meaning unlocked. An examination of the traditional methods used with this object in mind, but found inadequate in many cases, is provided here.

Traditional Methods of Word Attack

The children who wind up in a low reading group show up there for many different reasons. Some of them are there because they do not concentrate. Some cannot make fine visual discriminations. Some cannot make fine auditory discriminations. Some cannot remember what they have seen or heard. Some cannot remember the associations they must make between what they have seen and what they have heard. One conventional approach to teaching reading has been a "sight" or visual approach. The student is shown the printed form of a word and told the spoken word to be associated with it He is then expected to remember the visual form of the word and its oral counterpart when it is next encountered in reading. If a

student has trouble with visual memory, the first day he might be presented with five words that he is required to remember as "sight" words and the next day five more to be added to the ones not yet mastered. This compounding of memory load upon memory load soon leaves the student who has not mastereed the desired number of "sight" words under an unsurmountable burden. Basic sight words are important to the story and usually to later stories; these are words the students have not yet been taught to analyze independently , so they are taught as whole words, a memory load. At the earliest levels most words are basic.

If a student has visual discrimination or visual memory problems, a visual approach to learning to read is probably not an appropriate approach for him. If he has good auditory discrimination and memory, an auditory method is likely to be more productive. The input channels often discussed are the visual, the auditory and the kinesthetic. Teachers are sometimes advised to find each student's strong channel of input and then find a method of teaching reading which employs that channel.

In the visual approach the student says the word and hears the teacher say it. The student is asked to read the word aloud immediately or later in the reading lesson., It has already been pointed out that the poor reader often cannot make fine visual discrimnations. The bilingual student has the extra burden of having to code switch the word in his native language to its English couterpart, and thus can lose much in his power of concentration on meaning in the process. Further study is needed. The study should consist of more than repeated attempts by the student to read the words that are flashed to him. Such a procedure tests the student's automatic response, but does not teach the word if the student fails to recognize it.

The visual-auditory method adds direct attention to the sequence in letters and sound in the word. For example, the teacher presents the word "duck." She

then points to the letter d and says /d/, to u and says /u/, to the ck and says /k/. After finishing the sequence, she blends the sounds together to make the word, duck. The student imitates the teacher, sounding and blending the word himself. The input is both visual and auditory, with sequence added. As is easily recognized,this is a very slow process, if repeated with every word and makes the assumption that the student knows phoneme-grapheme correspondences of the language well enough to easily decode. Also, there is a fallacy in assuming that the student has the necessary conceptual framework for assimilating foreign sounds by too few and nontangental experiences set up in a classroom situation.

Phonemes are classes of language sounds, each class of which,in a particular language, is considered one language sound. Graphemes are symbols for written language. The relation of a language sound to its symbol is referred to as a sound-symbol association or a phoneme-grapeheme correspondence. This relationship is a very important one, particularly in beginning reading materials when decoding skills must be developed.

Decoding ability is vital for early independence in reading. The decoding program, broadly conceived, includes instruction in both phonemic and structural analysis and deals with language elements not only on a sub-word and word level, but also on levels beyond the word, particularly the phrase, the sentence and the paragraph. Phonics instruction has a common goal to teach students how to figure out the pronunciation of unfamiliar written words by using the relationship that exists between phonemes and graphemes. Since phonics does not offer help with meanings, it is productive only with words already known in their spoken form (Durkin, 1972).. The teaching of phonics may begin, it is suggested, when the student has the ability to understand words, ideas, the student has the skill to use words and ideas in oral communication, and the student has the proficieincy to develop new words and ideas based upon prior learning experiences. Phonics, carefully

taught, facilitates reading, making children independent readers so much sooner (Rand, 1957). Many slow-learning pupils apparently need the help of actually hearing the specific sound in more direct association with its symbol (Kohl, 1973).

Some problems involved in the use of phonics are seen with pupils who can recognize an initial sound of a word, but then guess the rest of the word. Some students may be confused by the manner in which different sound-symbol relationships in words have similar sounds, as in all, paw, caught; gate, gait; cat, key; scare, skate, school. Also, consonants c and g have two different sounds as in get and gem; cat and cent.

The visual-motor approach to teaching basic "sight" word vocabulary adds a motor or writing input. The student looks at the word, says it to himself, looks away and tries to visualize it, then writes it from memory. After he has written it, he checks his writing of the word with the copy he studied. This method adds to the visual and auditory input, the input coming from the muscular movements involved in writing the word. Such movement input is called kinesthetic input.

Traditionalists claim that inflexibility of approach is often found in the reading of poor readers. These poor readers tend to know only what they have been taught directly and they have difficulty applying known associations to unknown words. A poor reader often tries one response unsuccessfully and then repeats it because his repertoire of skills and knowledges is limited.

Word attack skills include, among others, configuration, wherein it is held that the shape of the word should help identify the word; each word having its own configuration or shape. For example, "was" is a word made up of three lower case letters, giving a rectangular shape, bur so are words "saw," "men," "ran,"

"ram," and many others which can be listed, three-letter words that give a rectangular shape. Another word attack skill is the ability to recognize "picture" words, words that can cause a mental picture in the mind; for example "t r e e" can create a mental picture of a tree. But students cannot know if "t r e e" is a picture word until they first decode the word, and they have problems in the area of decoding. Then, of course, there are words which do not form pictures, such as "what," "the," "while." In the skill of "context clues" students are supposed to take an intelligent guess at the word they do not know through knowledge of the words around the unknown word. This presupposes that the words around the unknown word are known. The obvious problem here is that many students do not know the words around the unknown word and so all the words are unknown. In using phonics and finding beginning, medial, and final sounds in a word, students have problems in putting the sounds together to make the word. In learning "sight" words, as has been said earlier, too much time must be spent on having students memorize words, time that could more profitably be spent in developing and expanding comprehension.

It has been further suggested that, in order to find out exactly which decoding elements have not been mastered, the teacher might have the student read the word list. These words are the ones the student should be able to decode independently. Analyzing the student's mistakes should give a good idea of which particular correspondence or other decoding elements are difficult. However, the teacher who says "Now, Pedro, you can read that word. Try again," may not be very helpful. Try what again? Which alternative strategies could be suggested?

"Pedro, try configuration. What word has the shape like this word?" As has been mentioned, many words have similar shapes, so this isn't too much help.

"Pedro, that might be a picture word. If it is a picture word, what

picture do you get?" Pedro won't be able to get any picture unless he can decode the word.

"Pedro, take a guess. What word do you think will fit in here? If Pedro doesn't know enough words around the unknown word, this isn't too much help either.

"Pedro, what is the beginning sound of the word? What is the middle sound? What sound do you find in the middle of the word? What, you can't find the middle of the word? What is the final sound of the word? Now, put the word together." Usually Pedro doesn't succeed too well this way either.

A constant problem is how to get a slow reader to work on the same words or sound-symbol associations over and over. How do you keep his interest while you slow down the pace long enough for him to achieve mastery of skills. Traditionalists have suggested that children who are inconsistent and inflexible in reading need direct teaching of more skills, more thorough initial input, and more reteaching and review than normal children. This paper suggests that a consistent approach that can be used by the student in decoding any unknown word would be more beneficial. The traditional methods of word decoding have not proven helpful to many students, especially the bilingual student, in trying to master reading in the English language. These word attack methods do not permit the student to dwell on the concrete examples first, but rather tend to jump from the theoretical to the abstract and skip, or touch passingly, on the concrete. A combination of letters (theoretical) is supposed to represent in the mind of the learner (abstract) an object in reality (concrete).

Experimental Design

Actually, English is a lot more predictable than many teachers believe. If words follow regular patterns, they can be learned independently. Abstract words call for use in meaningful settings, as part of the student's growing vocabulary. What was employed in these experimental groupings was a model that would meet

the sociolinguistic and ethnolinguistic needs of the student in his code switching endeavors and attempts to transfer language meanings from the Spanish cultural background to the English idiom. The model was used with a wide variety of groups, including children and adults, to develop coping skills, study techniques, and vocabulary for reading in literature and job training.

Since there can be several reasons why a student does not function well in the reading situation, it was necessary to ascertain that a student had a decoding problem which caused his reading comprehension problem. To do this, a sample list of words from each grade level, from grades 1 through 8 was consulted. The teacher turned to the appropriate grade level of sample words which a student in a particular grade level should be able to read, not the level at which he was actually reading. For example, for a student in grade 5 reading on grade 3 level, the teacher turned to the list of sample words from grade 5, since that was the the official class in which the student was placed. If the student failed to recognize six out of ten words from this list, from which the teacher randomly selected, this indicated that the student lacked a workable word decoding skill. Table I shows words found on primary and secondary grade levels and graphically indicates that the consonant letter-sound relationship is the same for both levels, though the words differ in depth, length and difficulty.

Table I

Words from Grade 5 Vocabulary List

b	c	d	f	g	h	j
pot-bellied	concern	dynamic	fertile	goad	harsh	jarred
bungalow	ceremony	centipede	confident	gingerly	behemoth	projected
				lagoon		

Words from Grade 1 Vocabulary List

b	c	d	f	g	h	j
back	can	dog	feet	go	had	jump
baby	city	build	before	giant	behind	
	because			dog		

The diagnostic test was designed to provide information about the student's ability to recognize and use sound-symbol relationships in different parts of a word. The pupils were first required to orally identify the initial sound heard in a model word and then be able to find and recognize this same sound-symbol relationship wherever it appeared in a test word. In this way, a student profile was compiled for each student.

The Easy Steps to Reading Independence (ESTRI) program was then individualized to meet the student's specific needs, while, at the same time, providing opportunities for students to develop and expand a functional, broadened, enriched vocabulary through the use of cassette tapes accompanying student workbook, vocabulary enrichment book, visual aids, and reading materials including library books, children's magazines, records, and language arts games. Speaking listening, communicating, reading, demonstrating knowledge of "sight" words through acting out activities and building experience charts was encouraged. The program was incorporated into the regular classsroom time for one-half hour of each day.

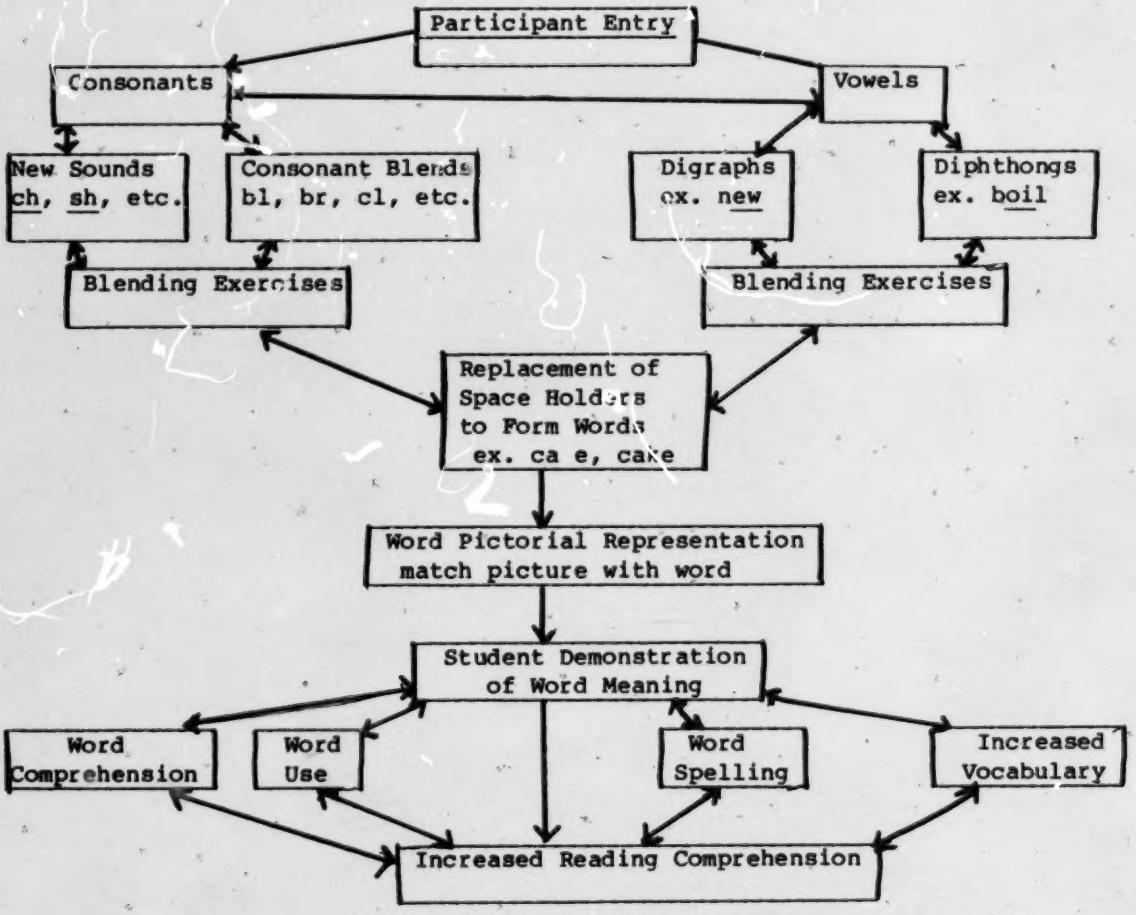
The ESTRI progrzm required no reading ability whatever on entrance into the program. The material in the student workbook was read aloud to the student by the accompanying tape, or by the teacher. This proved supportive and complementary to all types of reading material. Direcitons given for each lesson encouraged the student to enter the reading field as a continuation of the lesson. The rationale for this procedure was that, if the student is able to understand spoken English well, this indicates that he has the potential to use symbols, which are words and sentences, for objects, actions, qualities, images, ideas, content, and is thus enabled to concentrate on getting meaningful insight into vocabulary, which insight was to be transferred to the growing reading ability as he develops the decoding skill. This was possible because, from the beginning, he was not handicapped through requirement of possessing a basic sight vocabulary

Also, the word decoding skill did not change, and as the student developed in skill and understanding, he was able to apply this same decoding skill to the more complex words met at higher reading levels.

In each situation, the students were taken through four phases of phonics and language development. In phase 1, the students were taught the unchanging and universal fact that every word is made up of syllables and he was provided practice in orally and aurally recognizing the number of syllables in words. He was given visual rules for determining syllables in words through procedures which were applicable to every word and which were applied throughout the four phases (Biggins, 1975).

Table 2 outlines a chart of progressive development which demonstrates the hierarchy for establishing a workable schema.

Table 2
APPLYING PIAGTIAN SCHEMA TO DEVELOPING VOCABULARY ENRICHMENT PROFICIENCY



Learning Activities, Practical Applications of Model

One enrichment activity that might be of profit for all concerned in the learning classroom of monolingual and bilingual chldren could be a discussion of modes of transportation, how people travel in the native land of the bilingual child and of the United States. These modes of transportation might be compared and contrasted for types, velocity, and distance travelled. Also foods, the diet, vegetation found in different geographic areas could be discussed. A bilingual child might be encouraged to bring in newspapers read at home, pictures, or items of clothing for comparison and discussion. In a "show and tell" experience, children might share something with their peers that would have cultural import.

At a class outing, students could share experiences and impressions. Hispanic students could tell what these things are in Spanish, while the native-speaking students supply the English translation. Even taking a walk around the block, the class is bound to pass a bodega, a Spanish grocery store. The different items that would be found in the bodega could be named and classified. Really, any situation could become a learning experience. It is possible to develop; a health lesson, a social studies lesson, a science lesson. The bilingual child would thus be encouraged to feel as a participant in the learning process, being accepted, not being forced to forfeit his background, culture, or experiences. Rather, that these experiences do contribute to making the class a more enriched one.

The following chart is an example of Piagetian approach in which vocabulary was developed and enriched through sensorimotor skills, concrete operations and formal operational applications.

CLASS TRIP TO A BODEGA

Group	Skills Emphasized	Activity
Group I (poor understanding/ speaking of English)	Vocabulary Skills of items found in bodega in Spanish and English: uvas/grapes; agucate/ avocado.	Students complete chart on common items found in bodega.
Group II (Intermediate)	Comprehensikon Skills-- wrote sentences on the qualities and characteristics of things found in a bodega.	Used a book on nutrition containing pictures of foods.
Group III (Advanced)	Interpretive/Analytical Classification Skills; Individualized work; may have written two paragraphs on given or chosen topics pertaining to health and nutrition	Used several books; students wrote original composition.

Fostering Healthy Attitudes Towards the Bilingual Learner

The other side to this picture, one that is being duplicated in educational settings that have not taken a realistic view of the plight of the bilingual learner, is that the bilingual student is made to feel insecure coming into another culture which is mainly English-speaking, not feeling accepted or understood but finding a negative response. This situation could be non-intentional. Educators must actively look for the strengths of the bilingual child and capitalize on these strengths (Baecher, 1978,).

To get the "feel" that a bilingual student could have in a non-supportive environment, one might consider being required to deal in somebody else's symbolic transformations, deal in somebody else's knowledge, which doesn't reverberate with self-experiences, and yet being required to "mouthe" it.

Gradually, one's own experiences become separated from the stuff one "mouthes" and one doesn't know which is real, one's own experiences or the stuff one has to "mouthe." The transformation of the experience itself must be made into a significant symbol, one with which one can identify.

As is well known, development stages present an invariant sequence. Each stage reflects a particular mode of cognitive organization. Finally, these stages are not only invariant, each preceding stage is a necessary prerequisite for the next one. As Piaget points out, stages are structural in nature and are the results of genuine constructions by the individual.

Research with which this paper is concerned was conducted with a bilingual population of second graders in which 75% of the students came from homes where Spanish was the dominant language. They possessed poor functional vocabulary in the English language, showed confusions in use of pronouns, were unable to write simple sentences or to express themselves correctly in the English language, and were unable to handle second grade books because of poor reading ability. They made such mistakes in speaking as "I did it later," when they meant to express the past; and "Her is my mother," a confusion of pronoun usage. They showed no understanding of such location words as "top,", "bottom," "under," "over," "before," "after," "behind."

Of course, it is desirable and even necessary that students possess an adequate functional vocabulary and be able to express themselves correctly in the English language, know correct pronoun referrals, be able to identify correctly in English such meanings as the ones mentioned above. And an obvious problem is that these students, coming from a Spanish-dominant background with an inadequate English word vocabulary, are ill-equipped because of lack of knowledge in the needed word function, including nouns, verbs, demonstratives, to master "sight" words in reading, words that must be mastered so that they are

recognized immediately at sight; too much time had to be spent on having children memorize words, thus reducing the amount of time for developing word meaning.

Conclusion

The word decoding-vocabulary building process taught through a Piagetian schema guided the students and helped them meet their needs and overcome mahy of the impediments found in the traditional methods of word attack which, for these Spanish dominant students, were confusing rather than helpful. By using a concrete, systematic, cumulative, spiral approach to phonics and word decoding for unlocking words not immediately recognized by the student, more time was freed to develop and extend a functional vocabulary. This had a desirable result in building a meaningful, experiential background for the passages students later enjoyed reading. Theprogram was a functional and direct program that led to earlier-than-previously-experienced independence in reading. It was linguistically sound in approach and did not require a knowledge of linguistics theory for its implementation. It was found that a Piagetian model can simplify the teaching of phoneme-grapheme correspondences by pointing out many newly considered relationships. ESTRI, a model of the Piagetian approach, permits the student to dwell on the concrete level first and leads from the concrete to the theoretical to mastery of the abstract. For example, the students were enabled to realistically experience the concrete object (ball), hear its name pronounced, understand that its name began with the sound-symbol relationship for b, and assimilate both object and relationship into his storehouse of symbols.

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